



MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Shari T. Wilson
Secretary

Robert M. Summers, Ph.D.
Deputy Secretary

June 9, 2009

The Honorable Martin O'Malley
State House
100 State Circle
Annapolis, Maryland 21401-1925

The Honorable Thomas V. Mike Miller, Jr.
State House, H-107
Annapolis, Maryland 21401-1991

The Honorable Michael Erin Busch
State House, H-101
Annapolis, Maryland 21401-1991

RE: Chapter 187 (Senate Bill 766) and Chapter 188 (House Bill 1131) of 2007 Environment –
Phosphorus – Dishwashing Detergent

Dear Gentlemen:

On April 24, 2007 Governor O'Malley signed House Bill 1131 and Senate Bill 766 which prohibits the use, sale, manufacture, or distribution for use or sale within the State of any detergent for use in a household dishwashing machine that contains more than 0.5 percent phosphorus by weight. The original January 1, 2010 effective date of the prohibition was subsequently extended to July 1, 2010 by the adoption of Senate Bill 710 Chapter 442 on May 13, 2008. The 2007 legislation also requires that, by December 1, 2008, the Maryland Department of the Environment (MDE) shall report to the Governor and the General Assembly on the availability of detergents containing 0.5 percent phosphorus or less, by weight, for use in *commercial* dishwashing machines and a recommended date by which the use of such detergents in commercial dishwashing machines may be reasonably required.

Our investigation into the availability of low phosphorus detergents for commercial dishwashers found several low phosphorus detergents that can be used in commercial dishwashers. The detergent products are listed in the enclosed table. Information on five detergent products was sent to the Soap and Detergent Association (SDA) in two separate transmittals for their comment. SDA's comments on the two products identified in our initial transmittal raised concerns about nitrilotriacetic acid (NTA) which is possibly carcinogenic to humans and is an ingredient in one of the products identified to SDA. They noted that New



The Honorable Martin O'Malley

The Honorable Thomas V. Mike Miller, Jr.

The Honorable Michael Erin Busch

York and California regulate the use of NTA. On the general subject of the availability of low phosphorus commercial dishwasher detergents SDA commented: "The commercial/institutional warewashing environment presents much more difficult challenges than household dishwashing. Consequently, advances towards effective no-phosphate commercial/institutional formulations will be much more difficult to achieve. While research and development efforts at formulator companies and ingredient suppliers are ongoing, there is simply no realistic way to project the future in this instance." The second transmittal to SDA included information on three products that do not contain NTA. SDA's comments on the three products without NTA primarily concerned each product's potential performance in hard water and that one of the products has metasilicate which poses a risk to infants if they ingest the product. SDA also stressed that detailed comment is impossible without access to the actual products.

Comments on the availability of low phosphorus commercial dishwasher detergents were also sought from the National Restaurant Association (NRA), the Restaurant Association of Maryland (RAM), and the Maryland Chamber of Commerce. RAM responded that phosphorus-free detergents are not widely available for existing commercial dishwashers and they are not satisfied with the performance and reliability of the few products that are on the market. RAM also commented that one of the products with lower phosphorus content also contains NTA which has carcinogenic characteristics and is generally not used for that reason. RAM also stated that they have not found any products that their industry can use in existing equipment without compromising the health and safety of their customers. Information on four products that do not contain NTA was subsequently sent to RAM for comment. RAM's response indicated that they do not test the efficacy of alternative products and they directed MDE to other organizations.

The Maryland Association of Municipal Wastewater Agencies (MAMWA) was also contacted for comment concerning any potential wastewater treatment plant operational issues related to the use of low phosphorus commercial dishwasher detergents. MAMWA indicated that they do not foresee potential municipal wastewater treatment plant operational issues associated with the switch to low phosphate detergents for commercial dishwashers. They indicated that the lower phosphate levels will be a plus for MAMWA members as they strive to maintain the Bay-related phosphorus loading caps. The Department estimates that the phosphorus reductions to the Chesapeake Bay associated with an extension of the ban to commercial dishwashers would be about 13,000 pounds per year.

The Department also investigated whether any other states require the use of low phosphorus detergents for commercial dishwashers. No state has adopted legislation requiring the use of low phosphorus detergents for commercial dishwasher machines and, as of October 2008, no states had pending legislation.

The Department identified potential dishwasher products as described in the enclosure and, upon review of product information and comments from interested parties, the list of dishwasher products was substantially reduced. Products that currently do not have local distributors were eliminated. The manufactures of two products (GS 3000 and Hytron Free) indicated that they may not perform well in some situations and were removed from consideration. Finally, products containing NTA were also removed from consideration in response to health concerns.

In conclusion, the Department identified three potential commercial dishwashing products (ENVIRO 2000 N.P., HYDRO-KLOR, and ALL TEMP H.D.) involving two different manufacturers (ENVIROCHEM, Inc., U S Chemical). Based on our finding of a small number of potentially suitable low phosphorus commercial



Page Three

The Honorable Martin O'Malley

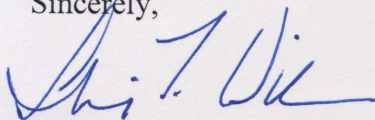
The Honorable Thomas V. Mike Miller, Jr.

The Honorable Michael Erin Busch

dishwasher detergent products that are not available for large scale use at this time, it is our recommendation that Maryland should continue to study the issue of low phosphorous commercial dishwashing detergents for another year and report back to the legislature in January 2010.

If you would like to discuss this further, please contact me at 410-537-3084, or Jay Sakai, Director of the Department's Water Management Administration at 410-537-3567.

Sincerely,



Shari T. Wilson
Secretary

Enclosure



Low Phosphorus Commercial Dishwasher Detergents

Product	Manufacturer	Distributor	Comment
GS 3000	ENVIROCHEM, Inc. 425 Whitehead Avenue South River, NJ 08882-2536 http://www.envirochem-usa.com/	Saval Foods Corporation 6740 Dorsey Road Elkridge, MD 21075 Clark Associates, Inc Noble Chemical 2205 Old Philadelphia Pike Lancaster, PA 17602 ABCO Corp. 5751 – E General Washington Dr. Alexandria, VA 22312 Unichem United Equipment Services 116 Pennsylvania Ave. Suite 2 Centreville, MD 21617	Product is “green” does not contain phosphorus, caustic soda, or nitrilotriacetic acid (NTA). Lack of caustic soda will require the use of more product to cut through grease associated with steaks.
ENVIRO 2000 N.P	Same as above	Same as above	Product does not contain phosphorus or nitrilotriacetic acid (NTA) but does contain caustic soda and sodium metasilicate.

Low Phosphorus Commercial Dishwasher Detergents

Product	Manufacturer	Distributor	Comment
MCS 1776 Patriot	Noramtech Corporation 19 Elmwood Avenue Kansas City, KS 66103 http://www.noramtech.com/	Adams-Burch 1901 Stanford Court Landover, MD 20785 Progressive Systems, Inc. 25 Hickory Street P.O Box 35 Frankford, DE 19945	Product does not contain phosphorus but does contain caustic soda, nitrilotriacetic acid (NTA) and sodium metasilicate.
Solid Safe	PDQ Manufacturing, Inc. 201 Victory Circle Ellijay, GA 30540 http://www.pdqonline.com/	Currently being evaluated by a Baltimore restaurant supply company	Product does not contain phosphorus, caustic soda or nitrilotriacetic acid (NTA).
Enviro Champ	Same as above	Same as above	Product does not contain phosphorus, or nitrilotriacetic acid (NTA) but does contain caustic soda.
350 Ultra Cycle	A.L.C.O 628 South Main Street Troutman, NC 28166 http://www.carolinasoapandsupply.com/home.html	No local distributor	Product does not contain phosphorus but does contain caustic soda

Low Phosphorus Commercial Dishwasher Detergents

Product	Manufacturer	Distributor	Comment
Hytron Free (ST-360)	Stearns Packaging Corporation 4200 Sycamore Ave. P.O. Box 3216 Madison, WI 53704 http://www.stearnspkg.com/	Daycon Products Company, Inc. 16001 Trade Zone Avenue Upper Marlboro, MD 20774	Product does not contain phosphorus, caustic soda or nitrilotriacetic acid (NTA), does contain sodium metasilicate. Manufacturer indicated that product works well in soft water and they are working on a formulation for hard water.
Phos Free	Daley International 4100 West 76 th Street Chicago, IL 60652 http://www.daleyinternational.com/	Holt Paper & Chemical Co. 1381 Western Avenue Baltimore, MD 21230 Depalo & Sons 4660 Depalo Road Baltimore, MD 21206 Allegheny Supply & Maintenance P.O. Box 186 Old 6 th Ave. Road Duncansville, PA 16635	Manufacture did not respond to inquiry asking if product contains nitrilotriacetic acid (NTA).

Low Phosphorus Commercial Dishwasher Detergents

Product	Manufacturer	Distributor	Comment
ULTREX N.P.	U S Chemical 316 Hart Street Watertown, WI 53094 http://www.uschemical.com/	FoodPRO 321 East 5 th Street Frederick, MD 21701 H & M Wagner & Sons, Inc. 7204 May Wagner Lane Glen Burnie, MD 21061	Product does not contain phosphorus but does contain caustic soda, nitrilotriacetic acid (NTA) and sodium metasilicate.
LIQUID FURY	Same as above	Same as above	Product does not contain phosphorus but does contain caustic soda and nitrilotriacetic acid (NTA).
DETERGENT E.S.	Same as above	Same as above	Same as above
TEMP DET	Same as above	Same as above	Same as above

Low Phosphorus Commercial Dishwasher Detergents

Product	Manufacturer	Distributor	Comment
HYDRO-KLOR	Same as above	Same as above	Product contains not over 0.25% phosphorus, caustic soda and no nitrilotriacetic acid (NTA).
ALL TEMP H.D.	Same as above	Same as above	Product contains no phosphorus, or nitrilotriacetic acid (NTA) but does contain caustic soda.